

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-213961

(43)Date of publication of application : 20.08.1996

(51)Int.Cl.

H04H 1/00  
H04Q 7/06  
H04Q 7/08  
H04Q 7/12  
H04Q 7/14  
H04H 1/08

2

(21)Application number : 07-244689

(71)Applicant : CASIO COMPUT CO LTD

(22)Date of filing : 22.09.1995

(72)Inventor : YAMANE KAZUYOSHI  
ORIMOTO TAKASHI

(30)Priority

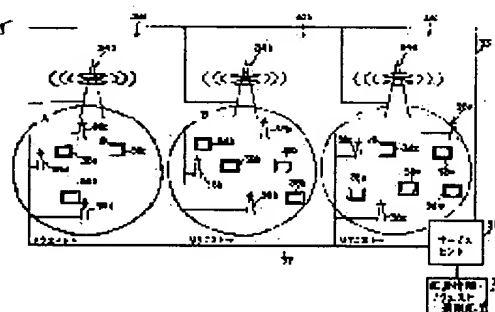
Priority number : 06306033 Priority date : 09.12.1994 Priority country : JP

## (54) INFORMATION PROVIDING SYSTEM AND PORTABLE TERMINAL EQUIPMENT USED THEREFOR

(57)Abstract:

**PURPOSE:** To obtain the information service system and the portable terminal equipment in which increase in communication traffic is suppressed and flexible choices are available.

**CONSTITUTION:** A service center 31 has plural management areas 32a to 32c and sends outline data with a key code added thereto in multiple address communication at first when service information is served via a radio communication network. The user selects whether a quick-detailed report mode (when the user desires details immediately) or a usual mode (when the user does not want immediate report) as required based on the outline data received by a terminal equipment of the user. The result of selection is sent to the service center 31, and the service center 31 sends immediately detailed data to be requested as the preliminary report to individual users on request. The service center 31 sends detailed information with a key code added thereto for a prescribed time in multiple address communication as to other data on usual transmission request. Each terminal equipment stores the key code as to data on usual transmission request and receives only the required information. Furthermore, the service center 31 counts number of requests and places priority on the transmission of detailed information and omits the transmission of detailed information to an area where no request is made.



## LEGAL STATUS

[Date of request for examination] 28.09.1999  
[Date of sending the examiner's decision of rejection]  
[Kind of final disposal of application other than the  
examiner's decision of rejection or application converted  
registration]  
[Date of final disposal for application]  
[Patent number]  
[Date of registration]  
[Number of appeal against examiner's decision of rejection]  
[Date of requesting appeal against examiner's decision of  
rejection]  
[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

## \* NOTICES \*

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

 CLAIMS
 

---

[Claim(s)]

[Claim 1] After transmitting informational outline data at least through a radio network, It has the service center which transmits the detailed data of the information corresponding to the aforementioned outline data after a predetermined time. Desired outline data are made to choose and memorize from the outline data of the information transmitted to personal digital assistant equipment from the aforementioned service center. The information offer system characterized by making the detailed data of the information corresponding to the outline data which carried out [ aforementioned ] storage received and taken in from the detailed data of the information transmitted after a predetermined time from the aforementioned service center.

[Claim 2] The aforementioned service center is an information offer system according to claim 1 characterized by adding the detailed data of the aforementioned information, transmitting on the occasion of transmission of the outline data of the aforementioned information, and making it choose it as the aforementioned personal digital assistant equipment any of the outline data of the aforementioned information, or detailed data they are.

[Claim 3] Transmission of the outline data of the aforementioned information and detailed data is an information offer system according to claim 1 or 2 characterized by being multiple address transmission.

[Claim 4] The code information showing the outline data of the aforementioned information being outline data at least, The detailed data of the aforementioned information which consists of a keycode corresponding to the detailed data of the aforementioned information, and alphabetic information which describes the outline of the aforementioned information, and is added and transmitted to the outline data of the aforementioned information The detailed data of the information which consists of code information showing being detailed data at least, and alphabetic information which describes the detail of the aforementioned information, and is transmitted after the aforementioned predetermined time The information offer system according to claim 1, 2, or 3 characterized by consisting of a keycode corresponding to these detailed data, and alphabetic information which describes the detail of the aforementioned information at least.

[Claim 5] Personal digital assistant equipment which receives the outline information transmitted without specifying a sink through a radio network from the service center characterized by providing the following, and this detailed information A storage means to memorize the received outline information A selection means to choose a required thing from the outline information memorized for this storage means A means to judge whether it corresponds to the outline information as which the detailed information which received was chosen by the above-mentioned selection means A detailed information storage means to memorize the detailed information judged to correspond by this judgment means

[Claim 6] The system which consists of a service center which is characterized by providing the following, and which offers information using a radio network, and personal digital assistant equipment which receives information A service center is 1st means to attach time difference and to transmit the detailed information relevant to the predetermined outline information about information and this predetermined outline information without specifying personal digital assistant equipment. It is a specification means to have 2nd means to transmit detailed information individually to specific personal digital assistant equipment, and to distinguish and specify immediately required information and the information which is not so when personal digital assistant equipment receives outline information. It is a demand means to require transmission of detailed information of the 2nd means of the above of a service center individually about required information immediately. It is a detailed information storage means to take out and memorize only the detailed information relevant to the outline information remembered to be an outline information-storage means to memorize the outline information concerned out of the detailed information by which back shell transmission is carried out by attaching time difference about the information which is not needed immediately.

[Claim 7] It is the information offer system according to claim 6 which the above-mentioned outline information consists of the alphabetic information and the keycodes which show an outline, the above-mentioned detailed information consists of alphabetic information which shows a keycode and a detail, and the above-mentioned outline information-storage means memorizes a keycode, and is characterized by for the above-mentioned detailed-information storage means to take out and memorize the detailed information containing the keycode which the above-mentioned outline information-storage means memorized, and the keycode in agreement.

[Claim 8] After transmitting informational outline data at least through a radio network, It has the service center which transmits the detailed data of the information corresponding to the aforementioned outline data after a predetermined time. Desired outline data are made to choose and memorize from the outline data of the information transmitted to personal digital assistant equipment from the aforementioned service center. In the information offer system which makes the detailed data of the information corresponding to the outline data which carried out [ aforementioned ] storage received and taken in from the

detailed data of the information transmitted after a predetermined time from the aforementioned service center The aforementioned service center has two or more jurisdiction area, and transmit outline data to the aforementioned personal digital assistant equipment in two or more aforementioned jurisdiction area all at once through the aforementioned radio network. The request to the aforementioned outline data sent from the aforementioned personal digital assistant equipment in two or more aforementioned jurisdiction area is managed according to each jurisdiction area. The information offer system characterized by transmitting the detailed data corresponding to the outline data this requested only to the jurisdiction area where the personal digital assistant equipment which performed the aforementioned request belongs.

[Claim 9] The aforementioned service center is an information offer system according to claim 8 characterized by transmitting immediately the detailed data corresponding to the outline data which counted the request from the aforementioned personal digital assistant equipment a jurisdiction area exception and according to outline data, and ~~were this counted~~ when this number of counts became more than fixed numbers to corresponding jurisdiction area.

[Claim 10] The aforementioned service center is an information offer system according to claim 8 or 9 which gives priority to the detailed data which should be transmitted based on the number of counts of the aforementioned request, and is characterized by the thing which become leisurely [ the communications traffic of the aforementioned radio network ], and for which the aforementioned detailed data are transmitted in order of [ aforementioned ] priority for every time zone.

[Claim 11] The aforementioned service center is an information offer system according to claim 8 characterized by counting the aforementioned request, creating new service information and transmitting based on the number of counts.

[Claim 12] Personal digital assistant equipment used [ time difference ] for the service system attached and transmitted to many and unspecified personal digital assistant equipments by the radio network including a service center characterized by providing the following in the detailed information relevant to the predetermined outline information about information and this predetermined outline information A specification means to distinguish immediately required information and the information which is not so, and to specify when outline information is received It is a demand means to require transmission of detailed information of a service center individually about required information immediately. It is an outline information-storage means to memorize the outline information concerned about the information which is not needed immediately. A detailed information storage means to take out and memorize only the detailed information relevant to the outline information memorized out of the detailed information by which back shell transmission is carried out by attaching time difference

---

[Translation done.]

**\* NOTICES \***

**Japan Patent Office is not responsible for any damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**DETAILED DESCRIPTION**

---

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] It is related with the personal digital assistant equipment used for the information offer system and it which offer information through a radio network from a service center.

[0002]

[Description of the Prior Art] There is communication information service performed for the walkie-talkie terminal unit with display called the so-called conventional pager. The so-called transmitting gestalt to which this provides a target with information on the other hand through a radio network towards a walkie-talkie terminal unit from a service center of being one-way (one-way) is taken. This information offer system is a system which transmit the content (detail) of the information to which the user who uses a walkie-talkie terminal unit first joins communication information service, and a service center corresponds to the communication information service to this all at once to the subscriber of communication information service by broadcasting (multiple address transmission) which is the transmitting gestalt which does not set a transmitting partner as it is.

[0003] Moreover, there is information retrieval service by personal computer communications. The receiving gestalt in which this information offer system receives the detail of the information on information service that it joined from the beginning similarly, with the pager of the above [ 1st / the ], To the 2nd, an informational title list (list of outline data) is received first, the user itself chooses the information on desired from the inside, a Request to Send is advanced, and 2 \*\*\*\*s is made the receiving gestalt which receives the detail of the information which is transmitted based on the Request to Send next, and which carried out [ above-mentioned ] selection.

[0004]

[Problem(s) to be Solved by the Invention] However, the one-way communication information service by the above-mentioned pager had the problem that only the part which incorporates unnecessary information needed mass memory for a pager while the time for sorting out required information became useless, in order to receive to the information which does not have the need for a user, once it joins.

[0005] Moreover, when advancing a Request to Send like personal computer communications and acquiring the information on desired, in order that all users might advance a Request to Send individually, there was a problem of bringing about the increase in a communications traffic.

[0006] The technical problem of this invention is offering the personal digital assistant equipment used for it while realizing the information offer system which suppresses the increase in a communications traffic and has flexible alternative.

[0007]

[Means for Solving the Problem] Below, the information offer structure of a system of this invention is described. The information offer system of invention according to claim 1 minds a radio network. After transmitting informational outline data at least, it has the service center which transmits the detailed data of the information corresponding to the above-mentioned outline data after a predetermined time. Desired outline data are made to choose and memorize from the outline data of the information transmitted to personal digital assistant equipment from the above-mentioned service center. It is constituted so that the detailed data of the information corresponding to the outline data which carried out [ above-mentioned ] storage may be made to be received and taken in from the detailed data of the information transmitted after a predetermined time from the above-mentioned service center.

[0008] Like for example, claim 2 publication, on the occasion of transmission of the outline data of the above-mentioned information, informational detailed data are added and it transmits, and the above-mentioned service center is constituted so that it may make it choose it as the above-mentioned personal digital assistant equipment any of the outline data of the above-mentioned information, or detailed data they are.

[0009] And transmission of the outline data of the above-mentioned information and detailed data is multiple address transmission like for example, claim 3 publication. For example like claim 4 publication, moreover, the outline data of the above-mentioned information The keycode corresponding to the detailed data showing being outline data at least of code information and the above-mentioned information, And the detailed data of the above-mentioned information which consists of alphabetic information which describes the outline of the above-mentioned information, and is added and transmitted to the outline data of the above-mentioned information Consisting of code information showing being detailed data at least, and alphabetic information which describes the detail of the above-mentioned information, the detailed data of the information

transmitted after the above-mentioned predetermined time consist of alphabetic information which describes the detail of the keycode corresponding to the above-mentioned detailed data, and the above-mentioned information at least.

[0010] Invention according to claim 5 is premised on the personal digital assistant equipment used for the information offer system which consists of a service center which offers information through a radio network, and personal digital assistant equipment which receives the information. A receiving means to receive any of the outline data of this information included in the information offered from the above-mentioned service center, or detailed data they are, or [ usually boiling the detailed data corresponding to these outline data, and receiving, when outline data are received by this receiving means ] -- or it receives quickly -- with a selection means to choose one of those receiving modes A storage means to memorize the predetermined keycode contained in the outline data which carried out [ above-mentioned ] reception when the receiving mode of one of the above is chosen by this selection means, Out of the detailed data transmitted from a service center corresponding to the receiving mode chosen by the above-mentioned selection means, it has a taking-in means to incorporate the detailed data corresponding to the predetermined keycode memorized by the above-mentioned storage means, and is constituted.

[0011] After invention according to claim 8 transmits informational outline data at least through a radio network, It has the service center which transmits the detailed data of the information corresponding to the above-mentioned outline data after a predetermined time. Desired outline data are made to choose and memorize from the outline data of the information transmitted to personal digital assistant equipment from the above-mentioned service center. It is applied to the information offer system which makes the detailed data of the information corresponding to the outline data which carried out [ above-mentioned ] storage received and taken in from the detailed data of the information transmitted after a predetermined time from the above-mentioned service center.

[0012] In the information offer system of this invention, the above-mentioned service center Have two or more jurisdiction area and outline data are transmitted to the above-mentioned personal digital assistant equipment in two or more above-mentioned jurisdiction area all at once through the above-mentioned radio network. The request to the above-mentioned outline data sent from the above-mentioned personal digital assistant equipment in two or more above-mentioned jurisdiction area is managed according to each jurisdiction area, and the detailed data corresponding to the outline data this requested only to the jurisdiction area where the personal digital assistant equipment which performed the above-mentioned request belongs are transmitted. Moreover, the detailed data corresponding to the outline data according to claim 9 this counted when the request from the above-mentioned personal digital assistant equipment was counted a jurisdiction area exception and according to outline data like and this number of counts became more than fixed numbers are immediately transmitted to corresponding jurisdiction area, for example. Moreover, based on the number of counts of the above-mentioned request, priority is given to the detailed data according to claim 10 which should be transmitted like, for example, and the above-mentioned detailed data are transmitted in order of [ above-mentioned ] priority for every time zone of the communications traffic of the above-mentioned radio network which becomes leisurely. Furthermore, for example like claim 11 publication, based on the number of counts of the above-mentioned request, new service information is created and it transmits.

[0013]

[Embodiments of the Invention] Hereafter, it explains in full detail, referring to a drawing about the gestalt of operation of this invention. Drawing 1 is the information offer structure-of-a-system block diagram of the gestalt of the 1st operation. As shown in this drawing, an information offer system consists of radio networks (henceforth a network) which connect Network Operations Center 1, the pocket information communication terminal (only henceforth a personal digital assistant) 2, and these Network Operations Centers 1 and a personal digital assistant 2.

[0014] The service center is established in the interior and Network Operations Center 1 can connect a service center now with a personal digital assistant 2 through a network. This service center is connected to two or more information centres by the circuit 3 through Network Operations Center 1. the information centre of these plurality For example, the news center 4-1 which reports the incident in which especially in and outside the country [ in a newspaper article etc. ] was conspicuous, the hotel of the picnic point, The travel center 4-2, new song introduction which perform information offer of reservation of a hotel, tourist home information, a package tour, a hotel, an airplane, etc., a timetable, etc., the music information centre 4-3 which offers hit chart information, the concert information on every place, etc. -- in addition -- although not illustrated especially -- a department store -- The shopping center which reports the bargain sale information and mail order goods of large-scale retailers, such as a discount store It consists of commercial special information centres which offer information offer service for every various information, such as a weather report center which forecasts a WX pattern of subsequent every place today, and a stock-quotations service center which reports the market price of the actual thing and futures of listed stocks. Moreover, the service center is connected also to the database 5 in which the content of a contract with the user using information service is shown through Network Operations Center 1.

[0015] On the other hand, a personal digital assistant 2 has the function which can transmit and receive a radio signal, is carrying out the pod type (POD= programmable operation display) appearance, and equips the transverse plane of equipment with the dot-matrix type liquid crystal display (liquid crystal display equipment) 2-1 which displays various information, and the touch input unit 2-2 which consists of tablets incorporated in piles the whole surface on this liquid crystal display equipment 2-1, such as a pressure-sensitive formula and an electromagnetic-induction method, for example. And the directions information and service information following a self-identification number are transmitted and received, and the received service information can be displayed now on liquid crystal display equipment 2-1. Moreover, this personal digital assistant 2 can be used as an electronic notebook or a computer, while not transmitting and receiving, substitutes an application ROM (Read Only Memory) card etc. further, and has come to be able to do a thing, such as enjoying various kinds of games.

[0016] And the network which ties the above-mentioned service center and a personal digital assistant 2 consists of circuits 6-5 which consist of the dedicated line or general telephone network which connects the parabola type transmitting antenna 6-1, a communication satellite (satellite) 6-2, the tower type transmitting antenna 6-3, the same tower type receiving antenna 6-4, and this receiving antenna 6-4 and Network Operations Center 1. A service center sends service information through the parabola type transmitting antenna 6-1, a satellite 6-2, and the tower type transmitting antenna 6-3, and receives the response from a personal digital assistant 2 through the tower type receiving antenna 6-4 and a circuit 6-5.

[0017] Drawing 2 is the block diagram showing the circuitry of the personal digital assistant 2 above-mentioned interior. In this drawing, CPU (Central Processing Unit) 10 is the central data-processing section which performs various kinds of processings, and the ID memory 12, the communications department 13, a display 14, the input section 15, the service code memory 16, the request code memory 17, and the memory section 18 are connected to this CPU 10 through the bus 11.

[0018] The above-mentioned ID memory 12 is fixed memory which has memorized a certain specific address number as a call number of self. The communications department 13 consists of an antenna, a receive section, and the transmitting section. An antenna sends the radio signal (directions information) which receives the radio signal (service information) transmitted from the transmitting antenna 6-3, or is outputted from a personal digital assistant 2. A receive section detects an input signal, amplifies, gets over, and is changed into the serial digital data which consists of "0" and "1." The transmitting section encodes the directions data or the predetermined data memorized corresponding to coordinate data of the position by which the touch input was carried out at the input section 15, adds an ID cord, changes it into serial data, and puts and sends this serial data to the transmitted wave of predetermined frequency through an antenna.

[0019] The liquid crystal display equipment 2-1 which explained the display 14 in drawing 1, Have a character generator, image memory, etc. which are not illustrated especially, and it is constituted. It is based on the service information read from the received service information or the memory section 18 mentioned later. The image data for one screen which consists of dot pattern data created by the character generator, data for various kinds of displays, etc. is developed to image memory in a dot image, and this developed image data for one screen is displayed on liquid crystal display equipment 2-1.

[0020] The input section 15 consists of touch input unit 5-2 grades explained in drawing 1, detects the touch input position by the pen or the fingertip, and outputs the coordinate data to CPU 10.

[0021] The service code memory 16 memorizes in detail one or more service codes mentioned later. The request code memory 17 memorizes one or more request codes which also mention this later in detail.

[0022] The memory section 18 is equipped with a ROM (Read-Only-Memory) field and a RAM (Random-Access-Memory) field, the control program is stored in the ROM field, and various application software, such as game software, extension software, etc. which are read from the received service information, the IC card which can be detached and attached, is stored in a RAM field. Above-mentioned CPU 10 controls each part according to the program read from ROM of the memory section 18 based on the touch input signal from the input section 15, the receiving interrupt signal by the reception from the communications department 13, etc., and performs various kinds of processings of displaying the service information read from RAM of the memory section 18 on liquid crystal display equipment 2-1.

[0023] Drawing 3 shows the example of the service code registered in order that the above-mentioned personal digital assistant 2 may receive the information service from a service center. As shown in this drawing, as a kind of service code, there are the title code and content code corresponding to the service information distributed from a service center, respectively. A title code is a code given to the data showing an informational outline, and a content code is a code given to the data showing the informational content (detail). the example shown in this drawing -- news, a travel, and the service information on musical -- receiving -- as a title code -- "001", "002", and "003" -- respectively -- corresponding -- \*\*\*\* -- as a content code -- "101" and "102" -- and -- \*\* -- "103" corresponds, respectively When the user of a personal digital assistant 2 makes a contract of desired information service with a service center and it is going to receive only the title (outline data) of the service information on desired by the 1st multiple address transmission, a title code is registered, and a content code is registered when it is going to receive the content (detailed data) of the service information on desired from another side and the beginning. For example, it is that "001" or "101" is registered when making [ from ] a contract of information service of news as desired information service among the above-mentioned news, a travel, or musical information service; and "002" or "102" is registered when making a contract of information service of a travel etc. That is, in case a user makes a contract of information service of news, if you wish to receive only the outline of news information by the 1st multiple address transmission, "001" will be registered, and "101" will be registered if you wish to receive a detail from the beginning. These registration is registered into the service code memory 16 shown in drawing 2 of a personal digital assistant 2 with the service center in case a user makes a contract of desired information service with a service center.

[0024] Drawing 4 (a), (b), and (c) It is drawing showing the composition of the communication data used for the multiple address transmission distributed from the above-mentioned service center (transmission). This drawing (a) The data composition of the communication data sent in the case of the 1st multiple address transmission is shown, and it is this drawing (b). The two concrete contents of the communication data are shown, and it is this drawing (c). The data composition of the communication data distributed in the case of the 2nd multiple address transmission is shown.

[0025] This drawing (a) The data composition of the communication data 21 distributed to the 1st time consists of two data areas, the title section 21-1 and the content section 21-2, so that it may be shown. The title section 21-1 consists of service keycode 21-1a, request keycode 21-1b, and title (outline, header) 21-1c. The content of data of service keycode 21-1a of this title section 21-1 is the same as that of the title code shown in drawing 3. That is, this communication data 21 is drawing 4 (b). As shown in the communication data 21a and 21b, when it is the news information about a "official discount rate" and a "personal

digital assistant", "001" showing the outline of the news information is set up as service keycode 21-1a. Above "001" is the thing showing transmit data being the "news" of service information which should be seen very much as a kind code.

[0026] Request keycode 21-1b is a keycode attached so that it may differ in each title data 21-1c of every, "R01" is set to the title data about a "official discount rate", and "R02" is set up to the title data about a "cellular phone" ( drawing 4 (b) is the same as that of reference and the following).

[0027] Title 21-1c consists of alphabetic datas which describe the title of each service information. For example, drawing 4 (b) The alphabetic data (character code) which shows the outline or header of "official discount rate ...", "personal digital assistant ...", etc., etc. is stored so that it may be shown.

[0028] One side, on the other hand the content section 21-2 consist of service keycode 21-2a and content of information (detailed) 21-2b. The content of data of service keycode 21-2a is the same as that of the content code shown in drawing 3 . That is, if this communication data 21 is news information, "101" showing being the content (detail) of news information is stored.

[0029] And content of information 21-2b consists of alphabetic datas which consisted of alphabetic datas which describe the news flash of today's official discount rate announced from the Bank of Japan of "the Bank of Japan [ ... ]" etc. as detailed news about an official discount rate, an exchange market condition, etc., and described the commercial-scene trend about the cellular phone of now great fashion of "board-of-inquiry company [ ... ] on the other day" etc. as news about a cellular phone.

[0030] By this, only a regular service subscriber can receive the service information on desired, respectively, and the above-mentioned service keycode 21-1a or 21-2a can try to display it now on the display screen of a personal digital assistant 2.

[0031] Next, this drawing (c) The communication data 22 distributed by the 2nd multiple address transmission from a service center so that it may be shown are this drawing (a) and (b). It consists of request keycode 21-1b and contents of information 21-2b which were shown. By the subscription contract with a service center, title section 21-1 by the 1st multiple address transmission the user who accepts and receives When it chooses that I incorporate the detailed data of the transmitted service information in the case of the 2nd multiple address transmission at the time of reception of the 1st multiple address transmission, or have detailed information immediately transmitted to it, Request keycode 21-1b of the title section 21-1 is registered into a user's personal digital assistant 2. In addition, the above-mentioned receiving form to which I have you transmit immediately means early as much as possible in the convenience of a service center, therefore if there is also a case of instancy, when some time intervals will be placed, it means a certain thing.

[0032] And although a user does not need to know the detail of an official discount rate, for example, if you want to choose a "cellular phone" and to see the detailed selected news by distribution (2nd distribution) of fixed time according to an outline to know the detailed news of a cellular phone, "the usual receiving form" will be chosen. It corresponds to this selection and is drawing 4 (b). The contents of data of request keycode 21-1b of the title section 21-1 of communication data 21b of the shown "cellular phone" "R02" are registered into the personal digital assistant 2 of the user concerned. And in distribution of the 2nd multiple address transmission, the communication data 22 of the "cellular phone" with which the contents of data of request keycode 21-1b are "R02" are incorporated by the personal digital assistant 2. It can receive now by the 2nd multiple address transmission whose detailed news of the "cellular phone" chosen by this when the 1st multiple address transmission was received are the usual receiving forms.

[0033] Moreover, when a user wants to know the detailed news of a cellular phone and to see the detailed news of the cellular phone with the usual not a receiving form but quick receiving form (news flash) is wished, a "cellular phone" is chosen and "the receiving form of news flash" is chosen. Corresponding to this selection, the detailed news of a cellular phone are individually transmitted from a service center to the personal digital assistant 2 of the user concerned.

[0034] Drawing 5 (a) and (b) The display state diagram of the received data displayed on the display 14 (liquid crystal display equipment 2-1) of a personal digital assistant 2 is illustrated two times, and it is this drawing (a). The display state of the received data based on the personal digital assistant 2 which has made a contract of information service of news is shown, and it is this drawing (b). The display state of the received data based on the personal digital assistant 2 which has made a contract of information service of a travel is shown.

[0035] This drawing (a) The left shows the display state of the title of the various contents of news of news information service, and "Headline" and the "news" which show that this display is a title display of news are divided into right and left of the topmost part of the display screen, and it is displayed. And "10, 24, 1994" which show October 24, 1994 which is today's date are displayed in the middle. the lower part -- four kinds of contents of news -- a title display -- "1. raising of an official discount rate", and "-- 2. -- a cellular phone -- 3. 3 million subscribers breakthrough", the "giant championship", and "-- 4. -- it is displayed as big earthquake occurrence" in South America, respectively The upward and downward cursor key display and the input key display of "news flash" and "being usually" and "EXE" are displayed on the bottom of the display screen in the reel, respectively.

[0036] this drawing (a) of this A cellular phone carries out the touch input of the display 23 of 3 million subscribers breakthrough" by the fingertip. the news service about the cellular phone out of four kinds of news which mentioned the left above -- choosing -- "-- 2. -- Next, the state where chose communication instancy as a receiving form, carried out the touch input of the display 25 of "news flash", and the touch input of the display 27 of "EXE" which finally checks the above-mentioned input and performs a notice in the service center was carried out is shown.

[0037] From a service center, when specification is "news flash", the detailed data of the news about a cellular phone are individually sent at once to the personal digital assistant 2 concerned by this. This dispatch is received by the personal digital assistant 2, and it is this drawing (a) to the display screen. As shown in the display state diagram shown in the right The news which tell about the commercial-scene trend about a cellular phone at present "it can set to Japan on the other day according to



the data which the board-of-inquiry.company.announced ..." as detailed contents of news concerning [ concerning the upper part for "a cellular phone overcoming 3 million subscribers" ] a cellular phone to the lower part as a header are displayed.

[0038] Moreover, this drawing (b) The example shown in the left shows the state where the title of the two contents of travel information service is displayed. This drawing (b) In the example shown in the left, it is divided into right and left at the topmost part of the display screen. "Headline" and the "travel" which show that this display is title presenting of travel information are displayed. in the middle "10, 24, 1994" which show October-24, 1994 which is today's date are displayed. in the lower part 2. a title display "1. the golf and hot spring Shimoda overnight-stay \30,000" and "X'mas dinner show ABC Hotel" of two tourist guidebooks are displayed. The input key of a upward and downward cursor key, "news flash", and "being usually" and "EXE" is shown in the reel like the case of the above-mentioned news by the bottom of the display screen, respectively.

[0039] This drawing (b) The left chooses the information service about golf and a hot spring from the above-mentioned tourist guidebooks, and carries out the touch input of the display 24 of "golf and hot spring Shimoda overnight-stay \30,000 [ 1. ]" by the fingertip. Next, the state where usually chose communication as a receiving form, carried out the touch input of the "usual" display 26, and the touch input of the display 27 of "EXE" which finally checks and performs the above-mentioned input was carried out is shown.

[0040] Corresponding to selection of the above "usual", as mentioned above, request keycode 21-1b of the title section 21-1 of the communication data 21 is registered into a user's personal digital assistant 2. The content of data of this request keycode 21-1b is a keycode corresponding to 1 to 1 to 1. above "golf and hot spring Shimoda overnight-stay \30,000." The detailed data corresponding to this keycode are received by the personal digital assistant 2 by distribution by the 2nd multiple address transmission, and it is this drawing (b). As shown in the display state diagram shown in the right, it is displayed on the display screen. This drawing (b) In the example shown in the right, up as a header as the "Shimoda golf pack" and a detailed content of the concerning the travel caudad guidance information The name and costs of a golf course "International Shimoda G.C.32,500 ->30,000 yen", "OP. party plan of +7,500 yen" and the content of specially service are displayed "To be bottle service at ten or more persons", and the contact is displayed for the arbitrary participating event and costs after a game end as "-:03 (3000) 1111", respectively.

[0041] Then, operation in the information offer system of the above-mentioned composition is explained. Drawing 6 is a flow chart explaining operation of the information offer system in the form of this operation. In addition, in this processing, it relates operation of a service center, and operation of a personal digital assistant 2 mutually for each other, and they advance.

[0042] In the flow chart shown in drawing 6, a personal digital assistant 2 is first set to the state, i.e., the receiving standby mode, which waits for the distribution from a service center by the user by the personal digital assistant 2 side (Step T1).

[0043] On the other hand, in a service center side, multiple address transmission performs detailed-with title data transmission to 5:00 all at once the every morning which is time with few communications traffics (Step S1). Thereby, if it is news, it is drawing 4 (b). The communication data 21a and 21b of data composition as shown etc. are sent from a service center. Of course, not only news but travel information, music information, ..., etc. are sent.

[0044] In a personal digital assistant 2 side, these service information is received serially (Step T2), and whenever it receives, the title of the received service information or the service keycode (refer to drawing 4 (a) and (b)) of the contents distinguishes whether it is in agreement with the service keycode for titles or the service keycode for contents registered into the self-personal digital assistant 2 service code memory 16 (Step T3).

[0045] And when in agreement with neither, the information is received and twisted (it does not incorporate), and it is made like (Step T4), and returns to the above-mentioned step T1. Memory can not only be managed with small capacity, but unnecessary information is not memorized by memory by this, therefore it can perform reference processing of back \*\* at high speed.

[0046] On the other hand, if in agreement [ with either ], for example in agreement with the service keycode for contents, the contents data (contents section 21-2 reference shown in drawing 4 (a) and (b)) of the information will be incorporated, and it will memorize in the memory section 18 (Step T5). Thereby, the detailed contents of only the information to need are memorized by memory. Moreover, if in agreement with the service keycode for titles, for example, the title data (title section 21-1 reference shown in drawing 4 (a) and (b)) of the information will be incorporated, and it will memorize in the memory section 18 (similarly step T5). Although this mentions later in detail, only still more nearly required information can be chosen out of the information which carried out the reception contract.

[0047] Then, it distinguishes whether the following information is received (Step T6). This processing is processing which distinguishes whether all the information corresponding to the service keycode registered into the service code memory 16 was received.

[0048] Although (S6 return to Y) and the above-mentioned step T1 when all the information that registered the service keycode is not received by the above-mentioned distinction, if received altogether (S6 is N), it will shift to processing (Step T7) of detailed data or processing (Step T8) of title data read-out.

[0049] processing of the above-mentioned detailed data is processing which carries out reading appearance of the detailed data memorized by the memory section 18 one by one, and is displayed on the display screen this -- for example, drawing 5 (a) and (b) the display of a display form as shown in the right should do -- the detailed contents of the service information on the selected request can be known

[0050] the title data memorized by the memory section 18 by processing of title data read-out on the other hand -- reading -- for example, drawing 5 (a) and (b) Display processing as shown in the left is performed. In these displays, all the title data memorized (it received) are arbitrarily displayed by the proper touch input to a cursor key display.

[0051] And processing of Step T9 which continues at this display processing and is shown with the dashed line of drawing is

performed repeatedly. At Step T9, it distinguishes first whether the request of service information is performed (Step T 9-1). this processing -- for example, drawing 5 (a) and (b) the display state shown in the left -- setting -- "-- 1. -- an official discount rate ... " and "-- 2. -- a cellular phone ... it is the processing which distinguishes whether the touch input of the titles, such as ", is chosen and carried out

[0052] And if the touch input is made, the request keycode contained in the title data of the service information by which the touch input was carried out will be memorized one by one in the request code memory 17 (Step T 9-2). thereby -- for example, drawing 5 (a) the display state shown in the left -- setting -- "-- 2. -- a cellular phone ... if the touch input of " is carried out, the request keycode "R02" of the service information (communication data 21b) about the cellular phone shown in drawing 4 (b) will be memorized by the request code memory 17 of a personal digital assistant 2

[0053] It distinguishes any of a news flash request and usually a request the requests of the above-mentioned service information are following the above (Step 9-3). this processing -- for example, drawing 5 (a) and (b) the display state shown in the left -- setting -- "news flash" and "-- usually -- " -- which input key is the processing which distinguishes whether it is that by which the touch input was carried out

[0054] By this distinction, if the touch input of the "news flash" is carried out (it is "news flash" at T9-3), the Request-to-Send data which consist of an information number, the request keycode, for example, "R02", memorized in the request code memory 17, which requires a predetermined news flash Request-to-Send signal, the identification number (or service member number) of the self-personal digital assistant 2, and transmission will be sent (Step T 9-4). Thereby, a service center is required to report the detailed data of a cellular phone promptly.

[0055] The above-mentioned Request-to-Send data are received, the news center corresponding to the information immediately required as recognizing that it is the signal which requires transmission (transmit as early as possible) of news flash is called, and the service information corresponding to the demanded information number is searched with a service center side (Step S2).

[0056] And when the information service is charged service, after processing accounting to the service account of the identification number added to the above-mentioned Request-to-Send data (Step S3), the searched service information is transmitted individually (attaching an identification number) to the personal digital assistant 2 which sent the above-mentioned Request-to-Send data (step S4).

[0057] In a personal digital assistant 2 side, the transmission from the above-mentioned service center is received at Step T2, and at Step T3, it checks that it is self-\*\*\*\*\*; incorporates, memorizes in the memory section 18 at Step T5, and expresses to the display screen as Step T7. Thus, a user can acquire only the information on desired quickly about information to know in a hurry.

[0058] Moreover, if the touch input of the "usual" input key is carried out by distinction of step T9-3 at the personal digital assistant 2 side (T9 -3 " usually"), the Request-to-Send data which consist of a predetermined usual Request-to-Send signal and an information number which requires the identification number of the self-personal digital assistant 2 and transmission like the above-mentioned case will be sent in this case (Step T 9-5). Thereby, a service center is required to usually transmit the detailed data of a cellular phone.

[0059] The above-mentioned Request-to-Send data receive, and it investigates whether the information service corresponding to the information number first required as recognizing that it is the signal which requires the usual transmission (for example, service which transmits the information for which it will wish by the morning of the next day) is a charge, or it is no charge in a service center side, and when it is charged service, accounting processes [ account / service / of the identification number added to the above-mentioned Request-to-Send data ] (Step S5).

[0060] And if it stands by to 3:00 a predetermined air time, for example, a morning of the next day, (Step S6) and is set to 3:00 in the morning, multiple address transmission only of the content data (refer to drawing 4 (c)) of the communication data sent to 5:00 on yesterday morning will be carried out again (Step S7).

[0061] In this case, in a personal digital assistant 2 side, it checks that it is in agreement with the keycode with which received at Step T2 and the service keycode of service information which received remembered the transmission from the above-mentioned service center to be in the request code memory 17 at Step T3, the service information is incorporated, and it memorizes in the memory section 18 at Step T5, and expresses to the display screen as Step T7. Thus, a user can acquire only the information on , desired by fixed distribution (the usual transmission) about the information which does not require urgency so much.

[0062] In addition, it omits, and because the personal digital assistant memorizes the required request keycode, it can also carry out processing of step T9-5. In this case, a service center will add a request keycode to all the detailed information the previous day, and will perform 2nd multiple address transmission. A keycode incorporates only a match from this 2nd information, and a personal digital assistant enables informational offer at a user.

[0063] Moreover, it not only considers time of multiple address transmission as the next day, but it may be made to perform transmission (the 1st time and the 2nd time) every several hours. By the way, with the gestalt of implementation of the above 1st, the transmitting method from a service center is made to perform the specified information at constant time by broadcast, when specification (usually request) of the information which is not hurry is received from a user (personal digital assistant side). In this case, the Request to Send from the above-mentioned user is used as transmitting requirements from a service center, and is only used as accounting information again. However, information service can be further diversified as added value using the information on the usual request from a user, and the availability can be raised. This is explained below as a gestalt of the 2nd operation.

[0064] Drawing 7 is drawing showing the area composition of the information offer system in the gestalt of the 2nd operation. The service center 31 shown in this drawing shows the service center established in the interior of Network Operations Center 1

of drawing 1. As shown in drawing 7, with the gestalt of this operation, the service center 31 has Area A (32a), Area B (32b), and two or more jurisdiction (it is three in this case) area of Area C (32c). The service center 31 is equipped with the radio network which consists of receiving systems which have the request-signal network 37 which consists of the transmitting system, the receiving antennas 36a, 36b, and 36c and dedicated line which have the transmitting line 33 and the transmitting antennas 34a, 34b, and 34c, the general telephone line, etc. to these jurisdiction area. And in two or more above-mentioned jurisdiction area (area A, B, and C), two or more personal digital assistants 38 (38a, 38b, and 38c) held by the user of service, respectively are arranged free [ movement ].

[0065] the transmitting line 33 for every above-mentioned area, and the transmitting antenna 34 (34a and 34b --) 34c, a receiving antenna 36 (36a, 36b, 36c), the request-signal network 37, and a personal digital assistant 38 (38a, 38b, 38c) The respectively same composition as the transmitting antenna 6-1 of drawing 1 and a satellite 6-2, the transmitting antenna 6-3, a receiving antenna 6-4, the dedicated line / general telephone network 6-5, and the pocket information communication terminal 2 is had jurisdiction [ composition ] and constituted by two or more areas for every area. Another number is given and shown although it is the composition same as mentioned above as the gestalt of previous operation in order to avoid that the gestalt of previous operation and explanation mix up in the gestalt of this operation.

[0066] In such composition, the above-mentioned service centers 31 transmit outline data (title information in the gestalt of previous operation) to two or more personal digital assistants 38 all at once through the transmitting line 33 and the transmitting antennas 34a, 34b, and 34c. On the other hand, from two or more above-mentioned area A and B and the personal digital assistants 38a, 38b, and 38c in C, the request signal to the above-mentioned outline data is answered to the service center 31 through the request-signal network 37 which consists of receiving antennas 36a, 36b, and 36c and a dedicated line, the general telephone line, etc. In the service center 31, the reply information on these request signals is managed each area exception and according to each outline data using an information processor 39.

[0067] The information processor 39 is equipped with the request count memory which has two or more area m (they are m=A, B, or C in the case of the gestalt of this operation), and the memory storage (counter) of the "nxm" individual corresponding to two or more kinds of service information n ( $n=n_1, n_2, n_3, n_4 \dots$ ). Moreover, the two set points (set point I and set point II) for judging effective/invalid of the number of requests in which counting is carried out by this request count memory are memorized beforehand. When the above-mentioned number of requests by which counting is carried out exceeds the set point I (the gestalt of this operation 20), or when [ even if the service center 31 was the case where the number of requests did not exceed set point I (20), ] it becomes a predetermined air time, it is made to transmit the detailed information whose number of requests is more than the set point II (the gestalt of this operation 10).

[0068] Next, processing of the information service which a service center offers is explained based on the flow chart of drawing 8 by making into an example the case where the service center 31 offers news offer service. The service center 31 performs broadcast of outline data (four items of news as example) \*\* of news through the transmitting line 33 and the transmitting antennas 34a, 34b, and 34c to all area (area A, B, and C shown in drawing 7) first (Step S11). This processing is the same processing as processing of Step S1 of the gestalt of the 1st operation.

[0069] Then, "0" clearances of the request count memory are carried out (Step S12). Thereby, initial setting of the content of each field (counter) of request count memory is carried out to "0."

[0070] Next, it distinguishes whether it is a predetermined air time (Step S13), and still, if it is not a predetermined air time (S13 is No), it will distinguish whether the request signal is received continuously (Step S14). In addition, in the above-mentioned step S13, the processing which distinguishes whether it is a predetermined air time and waits for the air time is the same processing as processing of Step S6 of the gestalt of the 1st operation.

[0071] And if there is no reception of a request signal (S14 is No), it will return to the above-mentioned step S13, and will stand by to a predetermined air time. If there is reception of a request signal at Step S14 (S14 is Yes), it will check whether it has been reception of a request (the request keys  $n_1, n_2$ , and  $n_3$  or  $n_4$ ) to which news item n from which area m (Area A and B or C) (Step S15). This processing corresponds to the thing which is sent from a personal digital assistant in step T9-5 of processing by the side of the personal digital assistant in the gestalt of the 1st operation and which usually receive the signal of a request.

[0072] With the gestalt of this operation, "1" increment of the value of the request count memory R (m, n) corresponding to the area (area) m concerned as for which the master station 38 carries out the whereabouts to the request key n is carried out following the above-mentioned processing (Step S16).

[0073] Here, the data composition of the above-mentioned request count memory is explained. Drawing 9 shows typically the data composition of the request count memory for the information management which the above-mentioned information processor 39 performs. This drawing shows Area m ( $m=A, B$ , or C) to the vertical line 41, and shows the request key n corresponding to each outline data ( $n=n_1, n_2$  and  $n_3$ , or  $n_4$ ) to the horizontal train 42. Although the service information which should be requested by these request keys  $n_1$ - $n_4$  is news with the gestalt of this operation, it may be the detailed information about a travel, music, an event, etc. And the number of requests as which it has been answered to the information management data shown in this drawing from the personal digital assistant 38 by which counting was carried out by repeating the processing steps S13-S15 mentioned above within the limit to which each request key n of each area m of a line 41 and a train 42 corresponds is recorded.

[0074] As for this drawing, the number of replies of the request key  $n_4$  corresponding to "3" and an item 4 in the number of replies of the request key  $n_3$  corresponding to "10" and an item 3 in the number of replies of the request key  $n_2$  corresponding to "0" and an item 2 in the number of replies of the request key  $n_1$  corresponding to a news item 1 in the number of requests from a personal digital assistant (the number of reception of the service center 31) shows that it is "7"

[0075] It returns to the flow chart of drawing 8, and distinguishes whether the value is larger than the set point I with reference to the value of the request count memory R (m, n) which carried out "1" increment now (Step S17).

[0076] And if the value is larger than set point I (20) (S17 is Yes), the detailed information corresponding to the request key n concerned will be transmitted to Area m by broadcast in that case (Step S18). If it is the example shown in drawing 9, since the counted value of the request key n2 of Area C is "19", from one of the terminal 38c which exists in Area d further, if there is a request of a news item 2, this counted value will be set to 20, it will become larger than the above-mentioned set point I, and the detailed information of the news of the item 2 corresponding to this will be immediately transmitted to the area C concerned by broadcast.

[0077] The detailed information of the outline data transmitted to 5:00 by broadcast in this way, for example, a morning, is immediately transmitted into the area which is broadcast again, without waiting to a detailed information air time at the appointed hour, and corresponds about a thing with the request more than fixed numbers. Since a user is doing memory of the content section keycode for receiving the detailed information of the selected service information into the personal digital assistant when he chooses a request, as the gestalt of the 1st operation explained, he can receive the detailed information by the broadcast easily.

[0078] On the other hand, at the above-mentioned step S17, when the value of the request count memory R (m, n) is not over the set point I, (S17 return to No) and Step S13 immediately mentioned above.

[0079] Moreover, when it becomes a predetermined air time at Step S13 mentioned above, (S13 choose the service information (detailed information) from which the value of Yes) and request count memory (m, n) has turned into more than the set point II (10) (Step S19), and the selected service information is transmitted to the area m which corresponds in the above-mentioned step S18. In this case, the service information n2 is transmitted to both the areas of Area A and Area C, and the service information n3 is transmitted to Area C.

[0080] Thus, since according to the gestalt of this operation the information was immediately transmitted when the request more than fixed numbers gathered, it will be preferentially transmitted by broadcast, and popular information will reach a user's hand promptly, and is convenient for the majority's user. moreover -- even if there are not so many requests -- to some extent -- the above -- a request -- it is also -- since it is alike, it attaches and it transmits to scheduled time, there is no dissatisfaction of a user. Moreover, when a request is zero affair, since broadcast of the information is not carried out, it contributes to mitigation of a communications traffic. Moreover, since transmission of detailed information can be selected with the number of requests, the composition of the outline data which become easy to transmit as an information headline and are first transmitted from the beginning even if a request is the maniac information which is not so much expectable becomes easy. Moreover, since the detailed information was transmitted in consideration of a request transmitting person's positional information from the transmitting base station which the request had, it becomes possible to take out the local color using the information stuck, for example to areas, such as a bargain sale and an event, and an availability improves.

[0081] Then, the gestalt of the 3rd operation is explained. The information offer structure of a system of the gestalt of this 3rd operation It is the same as that of the composition of the gestalt of the 2nd operation shown in drawing 7. an information processor 39 It has the request count memory which has two or more area m (they are m=A, B, or C in the case of the gestalt of this operation) shown in drawing 9, and the memory storage of the "nxm" individual corresponding to two or more kinds of service information n (n=n1, n2, n3, n4 ...).

[0082] And in the gestalt of this 3rd operation, the method of information offer of a service center differs from the gestalt of the 2nd operation of a \*\*\*\* a little. That is, when the communications traffic is not crowded, it is made to transmit a service center to a correspondence area preferentially from most information on a request with the gestalt of this 3rd operation. This is explained below.

[0083] Drawing 10 is the processing flow chart of the information service which a service center offers in the gestalt of the 3rd operation. First, to all area (area A, B, and C shown in drawing 7), through the transmitting line 33 and the transmitting antennas 34a, 34b, and 34c, a service center performs broadcast of outline data (Step S21), then clears request count memory, and, thereby, carries out initial setting of the counted value of each field of request count memory to "0" in the flow chart of this drawing (Step S22).

[0084] Next, if there are waiting (Step S23) and reception, reception of a request signal It checks whether it has been reception of a request (the request keys n1, n2, and n3 or n4) to which service information n from which area m (Area A and B or C) (Step S24). "1" increment of the request count memory R (m, n) corresponding to the area (area) m as for which the master station 38 carries out the whereabouts to the request key n which carried out [ above-mentioned ] reception is carried out (Step S25). In parallel to this, processing is returned to the above-mentioned step S23, and it waits for reception of a request signal.

[0085] Moreover, if there is reception at Step S23 performed in parallel, request count memory R (m, n) which processing of the above-mentioned steps S24 and S25 is performed repeatedly continuously, and corresponds will be serially carried out in an increment.

[0086] Then, the service information n is sorted to descending of the counted value of request count memory (m, n) (Step S26). Drawing 11 is drawing showing the example of the data composition of the result which carried out [ above-mentioned ] sorting. The data composition shown in drawing 9 is used for the original data (counted value of the request count memory R (m, n)) used as this candidate for sorting.

[0087] By having sorted such counted value to descending order for every area, as shown in drawing 11, in Area A, a sorting result is arranged in order of the request keys n2, n4, and n3, and there are no data corresponding to Area B, and the sorting result is arranged in Area C in order of the request keys n2, n3, and n4.

[0088] Thus, at Step S26, the request key n is sorted for every area, the sorting result is held, and transmission is prepared (Step S27). While performing the above-mentioned processing, the service center is always supervising the communications traffic for every area (Step S28), and the timing as for which the communications traffic which transmits service information is vacant is measured (S28 is No). And when a communications traffic is vacant and the transmit timing of service information has turned to Area m (S28 is Yes), the counted value of the area m transmits the service information (detailed information) corresponding to the request key n which is the maximum to the area m (Step S29). If the data composition of the above-mentioned sorting result is composition like the example shown in drawing 11, about Area A, the service information n2 corresponding to the request key n2 whose counted value is the maximum in the area concerned will be transmitted to the 1st by this, and the service information n4 will come to be transmitted by the following transmit timing.

[0089] In addition, as mentioned above, with the gestalt of the 3rd operation, although informational transmitting sequence was changed based on the number of requests, based on the above-mentioned number of requests, new information, such as the top ten news or good-place-known-to-few-people information, is created, and it can transmit. This is explained below as a gestalt of the 4th operation. Drawing 12 is the processing flow chart of information service of the service center in the gestalt of the 4th operation, and is drawing 13 (a) and (b). It is drawing showing typically the data composition of the information management which a service center performs.

[0090] In the flow chart shown in drawing 12, processing of Steps S31-S35 is the same as processing of Steps S21-S25 of the flow chart of the gestalt of the 3rd operation shown in drawing 10 respectively.

[0091] In the gestalt of this 4th operation, it is drawing 13 (a) at Step S36. Regardless of Areas A and B or C, it totals for every request key as these every place grades A and B and whole C so that it may be shown. And it is this drawing (b) about those total value. It sorts and holds to descending order so that it may be shown.

[0092] Next, several affairs from which the number of requests sorted and obtained by descending order serves as a high order in this way are chosen (Step S37). For example, the new service information with which the top ten news of the news in which the thing, then user who choose ten high orders from many items with news offer service got interested will understand, and a user can be provided will be acquired.

[0093] If service data are the request key of travel information, music information, and event information, new service information, such as "picnic good-place-known-to-few-people information" or "today's music top ten", can also be acquired as another service information. And new information is anew transmitted to all areas by broadcast (Step S38).

[0094] Thus, if the request key n is totaled, it can grasp clearly what the information which the user wanted is in fact, and new service information can be acquired based on this totaled popular information, and it can transmit to a service candidate by making this information into additional information.

[0095]

[Effect of the Invention] As mentioned above, since according to this invention it distributes to the title which is the information which requires a detail and multiple address transmission is received after sorting out with an informational title and the content data which are the information which wants to know a detail from the beginning by two kinds of keycodes corresponding to the content, respectively as explained in detail Only a user's information really needed can be chosen and it can receive, therefore in spite of being multiple address transmission, the information service doubled with the need of user each can be offered.

[0096] Moreover, since information is incorporated by the keycode which is beforehand transmitted by the first multiple address transmission, and is registered by the usual Request to Send to the information as which detailed data are required according to a Request to Send after sorting, there is no need of being able to offer the detailed data sorted out and demanded by the next multiple address transmission, therefore transmitting individually, and a communications traffic can be used efficiently.

[0097] Moreover, since only the information which a user needs immediately to the detailed information demanded after sorting is transmitted individually, while being able to suppress the increase in a communications traffic to minimum, a user can know only the information sorted out to know immediately immediately, therefore is economical and convenient.

[0098] Furthermore; since the information was immediately transmitted when the request more than fixed numbers gathered, it will be preferentially transmitted by broadcast, and popular information will reach a user's hand promptly, therefore is very convenient for an absolute majority group's user. Moreover, since it transmits to scheduled time about what has a request above to some extent even if there are not so many requests, information popular to some extent arrives to a user certainly, therefore satisfaction of a broad user is obtained. Moreover, since broadcast of the information is not carried out when a request is zero affair, it contributes to mitigation of a communications traffic. Moreover, since transmission of detailed information can be selected with the number of requests, the construction of outline data which becomes easy to transmit as an information headline, therefore transmits first from the beginning even if a request is the maniac information which is not so much expectable becomes easy. Moreover, since the detailed information was transmitted from the transmitting base station which the request had in consideration of the positional information of the user who transmits a request, it becomes possible to take out the local color using the information stuck, for example to areas, such as a bargain sale and an event, a feeling of an affinity improves, and the convenience of an area is reinforced. Moreover, since information is created based on the number of requests obtained for every area and this can be anew transmitted as new information, it becomes possible to offer the new service based on the request obtained from the user.

---

[Translation done.]

**\* NOTICES \***

**Japan Patent Office is not responsible for any damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**DESCRIPTION OF DRAWINGS**

---

**[Brief Description of the Drawings]**

- [Drawing 1] It is the information offer structure-of-a-system block diagram of the gestalt of the 1st operation.
- [Drawing 2] It is the block diagram showing the circuitry inside the personal digital assistant of the gestalt of the 1st operation.
- [Drawing 3] It is drawing showing the example of the service code registered in order that a personal digital assistant may receive the information service from a service center.
- [Drawing 4] It is drawing showing the composition of the communication data used for the multiple address transmission distributed (transmission), and it is (a) from a service center. Drawing, and the (b) which show the data composition of the communication data sent in the case of the 1st multiple address transmission Drawing, and (c) which shows the two concrete contents of communication data It is drawing the data composition of the communication data distributed in the case of the 2nd multiple address transmission be shown.
- [Drawing 5] It is the display state diagram of the received data displayed on the display (liquid crystal display equipment) of a personal digital assistant, and is (a). Drawing and (b) which show the display state of the received data based on the personal digital assistant which has made a contract of information service of news It is drawing showing the display state of the received data based on the personal digital assistant which has made a contract of information service of a travel.
- [Drawing 6] It is a flow chart explaining operation of the information offer system of the gestalt of the 1st operation.
- [Drawing 7] It is drawing showing the area composition of the information offer system in the gestalt of the 2nd operation.
- [Drawing 8] It is the processing flow chart of the information service which a service center offers in the gestalt of the 2nd operation.
- [Drawing 9] It is drawing showing typically the data composition of the information management which a service center performs in the form of the 2nd operation.
- [Drawing 10] It is the processing flow chart of the information service which a service center offers in the form of the 3rd operation.
- [Drawing 11] It is drawing showing typically the data composition of the information management which a service center performs in the gestalt of the 3rd operation.
- [Drawing 12] It is the processing flow chart of the information service which a service center offers in the gestalt of the 4th operation.
- [Drawing 13] (a) and (b) It is drawing showing typically the data composition of the information management which a service center performs in the gestalt of the 4th operation.

**[Description of Notations]**

- 1 Network Operations Center
- 2 Pocket Information Communication Terminal (Personal Digital Assistant)
  - 2-1 Liquid Crystal Display (Liquid Crystal Display Equipment)
  - 2-2 Touch Input Unit
- 3 Circuit
  - 4-1 News Center
  - 4-2 Travel Center
  - 4-3 Music Information Centre
- 5 Database
  - 6-1 Transmitting Antenna
  - 6-2 Communication Satellite (Satellite)
  - 6-3 Transmitting Antenna
  - 6-4 Receiving Antenna
- 6-5 Circuit
- 10 CPU (Central Processing Unit)
- 11 Bus
- 12 ID Memory
- 13 Communications Department
- 14 Display
- 15 Input Section

16 Service Code Memory  
17 Request Code Memory  
18 Memory Section  
21, 21a, 21b Communication data  
21-1 Title Section  
21-1a Service keycode  
21-1b Request keycode  
21-1c Title  
21-2 Content Section  
21-2a Service keycode  
21-2b The content of information  
23 "2. 3 Million Subscribers Breakthrough" Displays [ Cellular Phone ].  
24 Display of "Golf and Hot Spring Shimoda Overnight-Stay \30,000 [ 1. ]"  
25 Display of "News Flash"  
26 ", usually Display of "  
27 Display of "EXE"  
31 Service Center  
32a Area A  
32b Area B  
32c Area C  
33 Transmitting Line  
34a, 34b, 34c Transmitting antenna  
36a, 36b, 36c Receiving antenna  
37 Request-Signal Network  
38a, 38b, 38c Personal digital assistant  
39 Information Processor  
41 Area Composition  
42 Request Key Composition

---

[Translation done.]



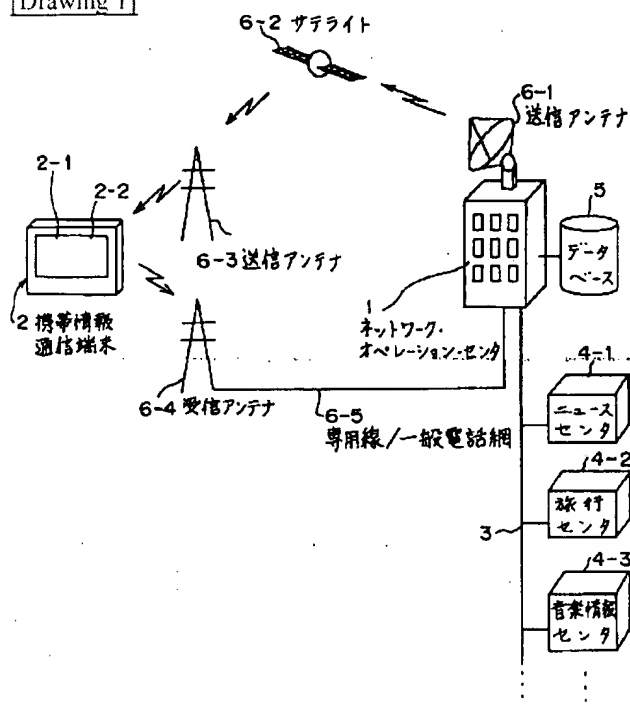
## \* NOTICES \*

Japan Patent Office is not responsible for any damages caused by the use of this translation.

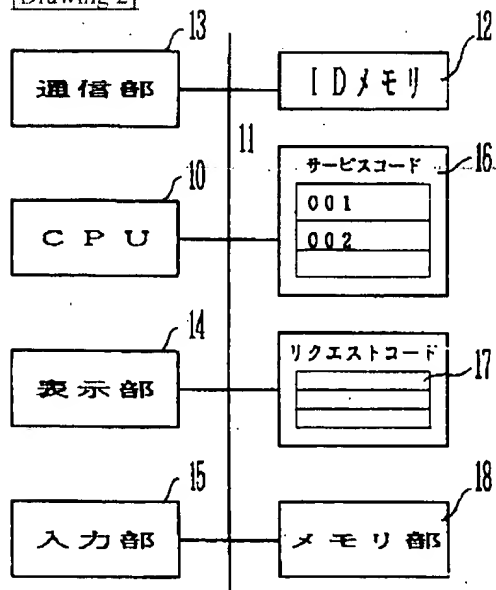
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

## DRAWINGS

[Drawing 1]



[Drawing 2]



[Drawing 3]



	タイトル	内容
ニュース	001	101
旅行	002	102
音楽	003	103

[Drawing 4]

21-1a	21-1b	21-1c	21-2a	21-2b
サービス キーコード	リクエスト キーコード	タイトル (概要)	サービス キーコード	情報内容 (詳細)

21-1 タイトル部

21-2 内容部

(a)

21-1				21-2	
001	R01	公定歩合...	101	日銀は... (詳細)	
001	R02	携帯電話...	101	先日、調査会社... (詳細)	

(b)

21-1b	21-2b
リクエスト キーコード	情報内容

(c)

[Drawing 13]

	n1	n2	n3	n4
TOTAL	0	30	18	9

[Drawing 5]

23 2-1

Headline 10.24.1994 ニュース				
1. 公定歩合引き上げ 2. 携帯電話が加入者 300万人突破 3. ジャイアンツ優勝 4. 南米で大地震発生				
△	▽		速報	通常 EXE

⇒

携帯電話が加入者 300万人突破	
先日、調査会社が発表したデータによると、日本における.....	
△	▽

(a)

24 2-1

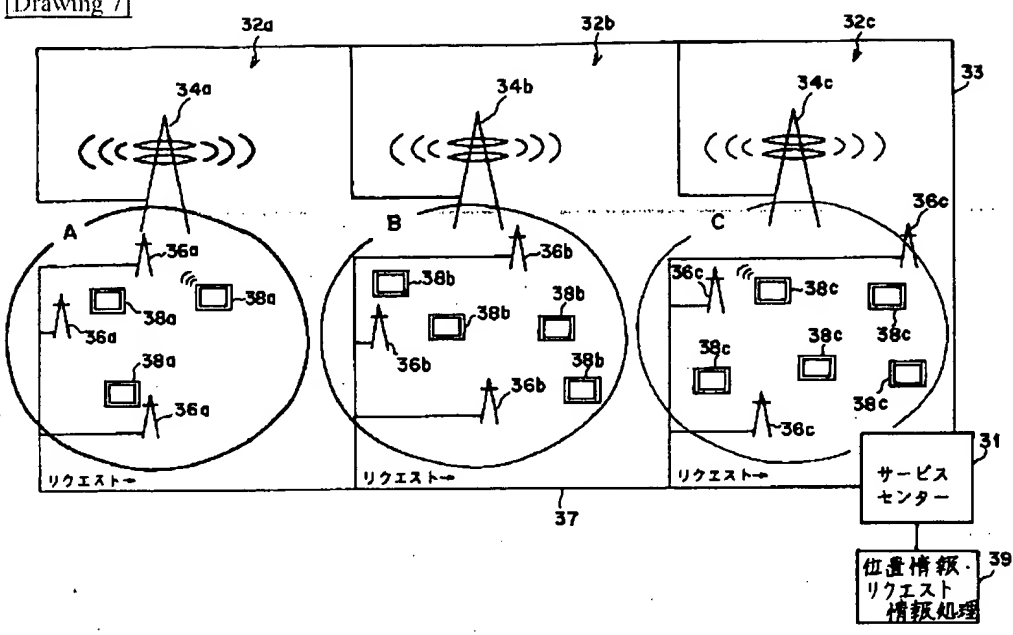
Headline 10.24.1994 旅行				
1. ゴルフと温泉 下田一泊 ¥30,000 2. X'mas ディナーショー ABC Hotel				
△	▽		速報	通常 EXE

⇒

下田ゴルフバック	
国際下田 G.C 32,500 → 30,000円 OP. 宴会プラン + 7,500円 10名以上でボトルサービス TEL: 03(3000)1111	
△	▽

(b)

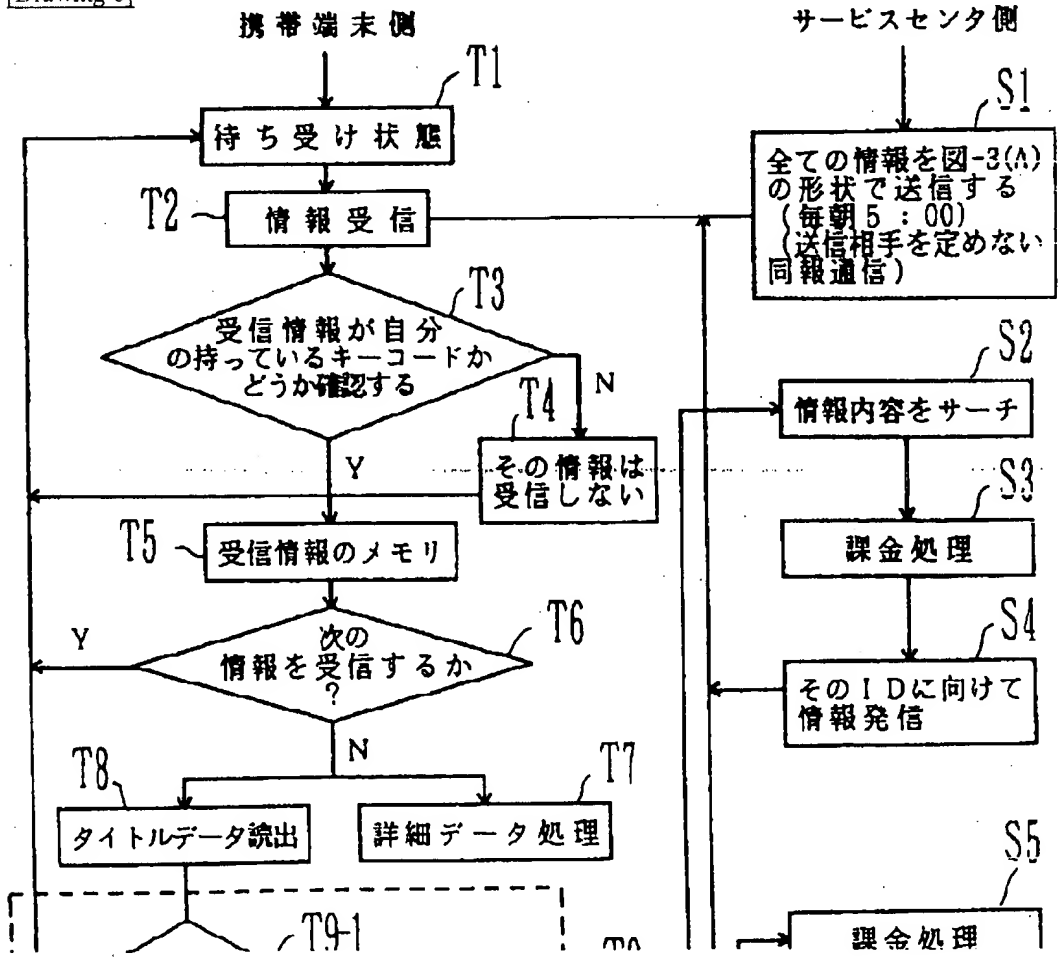
[Drawing 7]



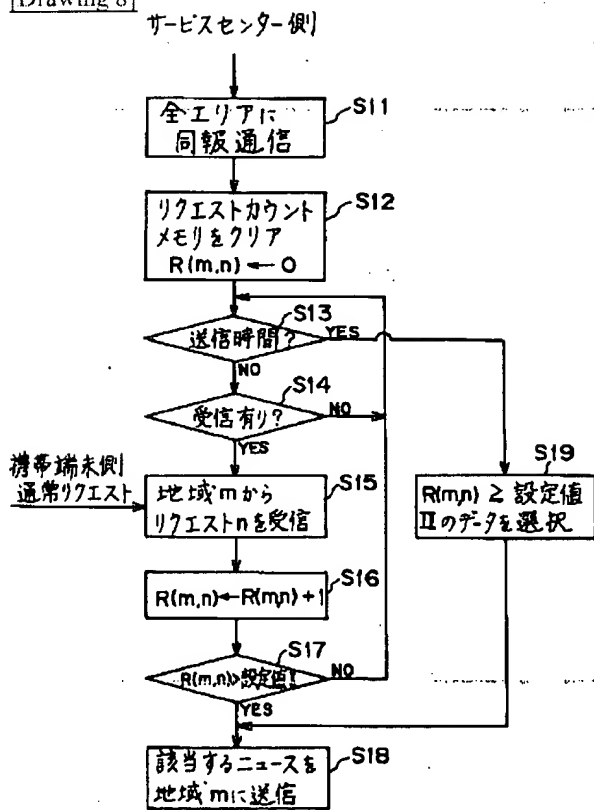
[Drawing 11]

A	n <sub>2</sub>	n <sub>4</sub>	n <sub>3</sub>	
B				
C	n <sub>2</sub>	n <sub>3</sub>	n <sub>4</sub>	

[Drawing 6]



[Drawing 8]

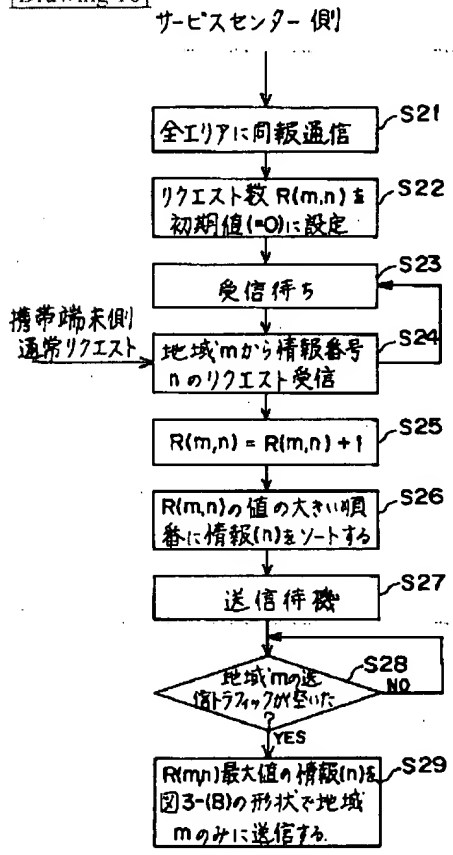


[Drawing 9]

42

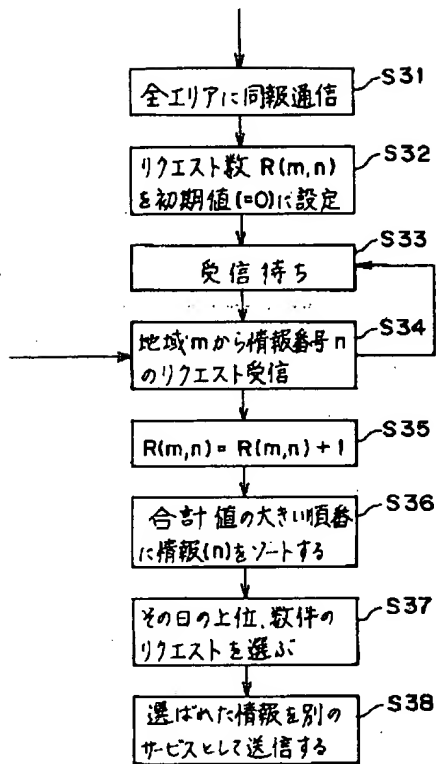
		リクエストキー n			
		n1	n2	n3	n4
41	エリア A	0	10	3	7
	B	0	0	0	0
	m c	0	19	15	2

[Drawing 10]



[Drawing 12]

サービスセンター側



[Translation done.]

## \* NOTICES \*

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

## CORRECTION or AMENDMENT

[Official Gazette Type] Printing of amendment by the convention of 2 of Article 17 of patent law

[Section partition] The 3rd partition of the 7th section

[Date of issue] April 20, Heisei 13 (2001. 4.20)

[Publication No.] JP,8-213961,A

[Date of Publication] August 20, Heisei 8 (1996. 8.20)

[\*\*\*\* format] Open patent official report 8-2140

[Filing Number] Japanese Patent Application No. 7-244689

[The 7th edition of International Patent Classification]

H04H 1/00

H04Q 7/06

7/08

7/12

7/14

H04H 1/08

[FI]

H04H 1/00 G

H

1/08

H04B 7/26 103 A

103 F

[Procedure revision]

[Filing Date] October 4, Heisei 11 (1999:10:4)

[Procedure amendment 1]

[Document to be Amended] Specification

[Item(s) to be Amended] The name of invention

[Method of Amendment] Change

[Proposed Amendment]

[Title of the Invention] The terminal unit used for an information offer system and it

[Procedure amendment 2]

[Document to be Amended] Specification

[Item(s) to be Amended] Claim

[Method of Amendment] Change

[Proposed Amendment]

[Claim(s)]

[Claim 1] After transmitting informational outline data at least through a radio network, It has the service center which transmits the detailed data of the information corresponding to the aforementioned outline data after a predetermined time. Desired outline data are made to choose and memorize from the outline data of the information transmitted to a terminal unit from the aforementioned service center. The information offer system characterized by making the detailed data of the information corresponding to the outline data which carried out [ aforementioned ] storage received and taken in from the detailed data of the information transmitted after a predetermined time from the aforementioned service center.

[Claim 2] The aforementioned service center is an information-offer system according to claim 1 characterized by adding the detailed data of the aforementioned information, transmitting on the occasion of transmission of the outline data of the aforementioned information, and making it choose it as the aforementioned terminal unit any of the outline data of the

aforementioned information, or detailed data they are.

[Claim 3] Transmission of the outline data of the aforementioned information and detailed data is an information offer system according to claim 1 or 2 characterized by being multiple address transmission.

[Claim 4] The code information showing the outline data of the aforementioned information being outline data at least, The detailed data of the aforementioned information which consists of a keycode corresponding to the detailed data of the aforementioned information, and alphabetic information which describes the outline of the aforementioned information, and is added and transmitted to the outline data of the aforementioned information The detailed data of the information which consists of code information showing being detailed data at least, and alphabetic information which describes the detail of the aforementioned information, and is transmitted after the aforementioned predetermined time The information offer system according to claim 1, 2, or 3 characterized by consisting of a keycode corresponding to these detailed data, and alphabetic information which describes the detail of the aforementioned information at least.

[Claim 5] The terminal unit which receives the outline information transmitted without specifying a sink through a radio network from the service center characterized by providing the following, and this detailed information A storage means to memorize the received outline information A selection means to choose a required thing from the outline information memorized for this storage means A means to judge whether it corresponds to the outline information as which the detailed information which received was chosen by the above-mentioned selection means A detailed information storage means to memorize the detailed information judged to correspond by this judgment means

[Claim 6] The system which consists of a service center which is characterized by providing the following, and which offers information using a radio network, and a terminal unit which receives information A service center is 1st means to attach time difference and to transmit the detailed information relevant to the predetermined outline information about information and this predetermined outline information without specifying a terminal unit. It is a specification means to have 2nd means to transmit detailed information individually to a specific terminal unit, and to distinguish and specify immediately required information and the information which is not so when a terminal unit receives outline information. It is a demand means to require transmission of detailed information of the 2nd means of the above of a service center individually about required information immediately. It is a detailed information storage means to take out and memorize only the detailed information relevant to the outline information remembered to be an outline information-storage means to memorize the outline information concerned out of the detailed information by which back shell transmission is carried out by attaching time difference about the information which is not needed immediately.

[Claim 7] It is the information offer system according to claim 6 which the above-mentioned outline information consists of the alphabetic information and the keycodes which show an outline, the above-mentioned detailed information consists of alphabetic information which shows a keycode and a detail, and the above-mentioned outline information-storage means memorizes a keycode, and is characterized by for the above-mentioned detailed-information storage means to take out and memorize the detailed information containing the keycode which the above-mentioned outline information-storage means memorized, and the keycode in agreement.

[Claim 8] After transmitting informational outline data at least through a radio network, It has the service center which transmits the detailed data of the information corresponding to the aforementioned outline data after a predetermined time. Desired outline data are made to choose and memorize from the outline data of the information transmitted to a terminal unit from the aforementioned service center. In the information offer system which makes the detailed data of the information corresponding to the outline data which carried out [ aforementioned ] storage received and taken in from the detailed data of the information transmitted after a predetermined time from the aforementioned service center The aforementioned service center has two or more jurisdiction area, and transmit outline data to the aforementioned terminal unit in two or more aforementioned jurisdiction area all at once through the aforementioned radio network. The request to the aforementioned outline data sent from the aforementioned terminal unit in two or more aforementioned jurisdiction area is managed according to each jurisdiction area. The information offer system characterized by transmitting the detailed data corresponding to the outline data this requested only to the jurisdiction area where the terminal unit which performed the aforementioned request belongs.

[Claim 9] The aforementioned service center is an information offer system according to claim 8 characterized by transmitting immediately the detailed data corresponding to the outline data which counted the request from the aforementioned terminal unit a jurisdiction area exception and according to outline data, and were this counted when this number of counts became more than fixed numbers to corresponding jurisdiction area.

[Claim 10] The aforementioned service center is an information offer system according to claim 8 or 9 which gives priority to the detailed data which should be transmitted based on the number of counts of the aforementioned request, and is characterized by the thing which become leisurely [ the communications traffic of the aforementioned radio network ], and for which the aforementioned detailed data are transmitted in order of [ aforementioned ] priority for every time zone.

[Claim 11] The aforementioned service center is an information offer system according to claim 8 characterized by counting the aforementioned request, creating new service information and transmitting based on the number of counts.

[Claim 12] The terminal unit used [ time difference ] for the service system attached and transmitted to many and unspecified terminal units by the radio network including a service center characterized by providing the following in the detailed information relevant to the predetermined outline information about information and this predetermined outline information A specification means to distinguish immediately required information and the information which is not so, and to specify when outline information is received It is a demand means to require transmission of detailed information of a service center individually about required information immediately. It is an outline information-storage means to memorize the outline

information concerned about the information which is not needed immediately. A detailed information storage means to take out and memorize only the detailed information relevant to the outline information memorized out of the detailed information by which back shell transmission is carried out by attaching time difference

[Procedure amendment 3]

[Document to be Amended] Specification

[Item(s) to be Amended] 0001

[Method of Amendment] Change

[Proposed Amendment]

[0001]

[The technical field to which invention belongs] It is related with the terminal unit used for the information offer system and it which offer information through a radio network from a service center.

[Procedure amendment 4]

[Document to be Amended] Specification

[Item(s) to be Amended] 0006

[Method of Amendment] Change

[Proposed Amendment]

[0006] The technical problem of this invention is offering the terminal unit used for it while realizing the information offer system which suppresses the increase in a communications traffic and has flexible alternative.

[Procedure amendment 5]

[Document to be Amended] Specification

[Item(s) to be Amended] 0007

[Method of Amendment] Change

[Proposed Amendment]

[0007]

[Means for Solving the Problem] Below, the information offer structure of a system of this invention is described. The information offer system of invention according to claim 1 minds a radio network. After transmitting informational outline data at least, it has the service center which transmits the detailed data of the information corresponding to the above-mentioned outline data after a predetermined time. Desired outline data are made to choose and memorize from the outline data of the information transmitted to a terminal unit from the above-mentioned service center. It is constituted so that the detailed data of the information corresponding to the outline data which carried out [ above-mentioned ] storage may be made to be received and taken in from the detailed data of the information transmitted after a predetermined time from the above-mentioned service center.

[Procedure amendment 6]

[Document to be Amended] Specification

[Item(s) to be Amended] 0008

[Method of Amendment] Change

[Proposed Amendment]

[0008] Like for example, claim 2 publication, on the occasion of transmission of the outline data of the above-mentioned information, informational detailed data are added and it transmits, and the above-mentioned service center is constituted so that it may make it choose it as the above-mentioned terminal unit any of the outline data of the above-mentioned information, or detailed data they are.

[Procedure amendment 7]

[Document to be Amended] Specification

[Item(s) to be Amended] 0009

[Method of Amendment] Change

[Proposed Amendment]

[0009] And transmission of the outline data of the above-mentioned information and detailed data is multiple address transmission like for example, claim 3 publication. For example like claim 4 publication, moreover, the outline data of the above-mentioned information The keycode corresponding to the detailed data showing being outline data at least of code information and the above-mentioned information, And the detailed data of the above-mentioned information which consists of alphabetic information which describes the outline of the above-mentioned information, and is added and transmitted to the outline data of the above-mentioned information Consisting of code information showing being detailed data at least, and alphabetic information which describes the detail of the above-mentioned information, the detailed data of the information transmitted after the above-mentioned predetermined time consist of alphabetic information which describes the detail of the keycode corresponding to the above-mentioned detailed data, and the above-mentioned information at least.

[Procedure amendment 8]

[Document to be Amended] Specification

[Item(s) to be Amended] 0010

[Method of Amendment] Change

[Proposed Amendment]

[0010] Invention according to claim 5 is premised on the terminal unit used for the information offer system which consists of a



service center which offers information through a radio network, and a terminal unit which receives the information. A receiving means to receive any of the outline data of this information included in the information offered from the above-mentioned service center, or detailed data they are, or [ usually boiling the detailed data corresponding to these outline data, and receiving, when outline data are received by this receiving means ] -- or it receives quickly -- with a selection means to choose one of those receiving modes A storage means to memorize the predetermined keycode contained in the outline data which carried out above-mentioned ] reception when the receiving mode of one of the above is chosen by this selection means, Out of the detailed data transmitted from a service center corresponding to the receiving mode chosen by the above-mentioned selection means, it has a taking-in means to incorporate the detailed data corresponding to the predetermined keycode memorized by the above-mentioned storage means, and is constituted.

[Procedure amendment 9]

[Document to be Amended] Specification

[Item(s) to be Amended] 0011

[Method of Amendment] Change

[Proposed Amendment]

[0011] After invention according to claim 8 transmits informational outline data at least through a radio network, It has the service center which transmits the detailed data of the information corresponding to the above-mentioned outline data after a predetermined time. Desired outline data are made to choose and memorize from the outline data of the information transmitted to a terminal unit from the above-mentioned service center. It is applied to the information offer system which makes the detailed data of the information corresponding to the outline data which carried out [ above-mentioned ] storage received and taken in from the detailed data of the information transmitted after a predetermined time from the above-mentioned service center.

[Procedure amendment 10]

[Document to be Amended] Specification

[Item(s) to be Amended] 0012

[Method of Amendment] Change

[Proposed Amendment]

[0012] The above-mentioned service center has two or more jurisdiction area, outline data transmit all at once through the above-mentioned radio network in the information offer system of this invention to the above-mentioned terminal unit in two or more above-mentioned jurisdiction area, the request to the above-mentioned outline data sent from the above-mentioned terminal unit in two or more above-mentioned jurisdiction area manages according to each jurisdiction area, and the detailed data corresponding to the outline data with which the terminal unit carried out the above-mentioned request was this requested only to the jurisdiction area belong transmit. Moreover, the detailed data corresponding to the outline data according to claim 9 this counted when the request from the above-mentioned terminal unit was counted a jurisdiction area exception and according to outline data like and this number of counts became more than fixed numbers are immediately transmitted to corresponding jurisdiction area, for example. Moreover, based on the number of counts of the above-mentioned request, priority is given to the detailed data according to claim 10 which should be transmitted like, for example, and the above-mentioned detailed data are transmitted in order of [ above-mentioned ] priority for every time zone of the communications traffic of the above-mentioned radio network which becomes leisurely. Furthermore, for example like claim 11 publication, based on the number of counts of the above-mentioned request, new service information is created and it transmits.

---

[Translation done.]